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DE-ALERTING OUR NUCLEAR FORCES,
AN ISSUE OF “RISK”

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Chapter 1

Introduction

“Simply put, we cannot predict the future. And so even as we strive to live up to our noblest goals, as Carnegie did, we must deal with the messy realities of the world we live. One of those realities is the existence of nuclear weapons.”

- Robert M. Gates, Secretary of Defense

Almost since their inception (some could argue even before that), there has been great discourse about the abolishment of nuclear weapons. From President Eisenhower’s “Atoms for Peace” address to the United Nations in 1953, where he pledged America’s “determination to help solve the fearful atomic dilemma,” to the inherent goal of the Non-Proliferation Treaty (NPT) which provides “that states that do possess them agree to divest themselves of these weapons over time.” Furthermore, all U.S. Presidents since Truman have desired the elimination of nuclear weapons and are on public record saying as much. This does not change the reality that we have nuclear weapons today and will continue to for the foreseeable future. While the arguments about “Nuclear Zero” and “A World Free of Nuclear Weapons” continue, this nation must also focus on what we have today.

Concentrating on the fact that we have nuclear weapons and their role in this nation’s deterrence policy allows us to detach ourselves from outlying discussions. It permits us to avoid the numerous discussions about the necessity (or lack thereof) for nuclear weapons, how many we should have, and what type should they be. While there is no doubt these are worthy discussions, we should not lose focus on our current situation. One of the major themes that have come back to the forefront of our nuclear weapons, and affects the realities of today, is the issue of “de-alerting.” The de-alerting issue has gained such resurgence that it was on President

Obama's campaign website which states, "work with Russia to take U.S. and Russian ballistic missiles off hair trigger alert."¹ In addition, President George W. Bush also said, "The United States should remove as many weapons as possible from high-alert, hair-trigger status."² Former Russian President Mikhail Gorbachev had discussed it; "As a token of their serious intent, they should without delay take two crucial steps -- make changes in their military doctrines, removing nuclear weapons from the Cold War-era high alert rates."³ The question is what is de-alerting?

The bottom line is there is no agreed upon definition for de-alerting. In basic terms, the de-alerting issue comes down to the posture (on alert, or not), readiness (if on alert, what type of alert), and timeliness of our nuclear weapons. Advocates of de-alerting would like to see extended timelines, slower readiness, and decreased postures. Opponents of de-alerting would like the exact opposite. It comes down to how fast can we launch our nuclear weapons and is this timeline a constraint on proper decision making?

It should also be noted that the U.S. currently does de-alert a large portion of the nuclear force. No nuclear capable aircraft are currently on alert. Significant portions of the U.S. Intercontinental Ballistic Missile (ICBM) and Sea Launched Ballistic Missile (SLBM) forces are not on alert. This paper deals with the idea of "absolute" de-alerting. "Absolute" de-alerting is the idea that all nuclear forces should be de-alerted (or even the full ICBM or SLBM force individually). It should be stressed that the U.S. de-alerts portions of the nuclear force every day. This flexibility is inherent to our deterrence strategy as well as providing for the day to day concerns of a nuclear force (training, maintenance, etc).

The following pages will discuss this argument. It will not discuss the value of nuclear weapons, the numbers we should have, the numerous treaties that the United States is participating in, nor will you see exact numbers, or exact types of alert (as these numbers are

classified). The reality of today is that we have nuclear weapons and they play a role in our deterrence policy. Given this fact, this nation's nuclear weapons, strategies, employment, and practices must be treated as such. The de-alerting issue comes down to a question of risk. Does de-alerting cause or cure more risk?

Notes

¹ Organizing for America, President Barack Obama website,
http://www.barackobama.com/issues/foreign_policy/index.php#nuclear (April 2009)

² Nuclear Threat Initiative, *A New Triumph of Sanity*, Carnegie International Non-Proliferation Conference (June 2004): 6

³ Mikhail Gorbachev, *The Nuclear Threat*, Nuclear Age Peace Foundation, (January 2007): 2

Chapter 2

Framing the Issue

“The U.S. is alone among the five declared nuclear nations in not modernizing its arsenal. The U.K. and France are both doing so. Ditto China and Russia. We’re the only ones who aren’t.”

- Gen Kevin Chilton, Commander U.S. Strategic Command

The World Today

The decision to de-alert or not must be made in the context of the current environment. This is especially true since any dramatic changes in the nuclear enterprise/landscape are “long term projects.” The current global environment is dominated by a multitude of ever increasing and dangerous concerns. Terrorism is at an all time high, Iran and North Korea have established themselves as “players” in the nuclear world, and Pakistan is in turmoil (as of today, Islamic extremists control areas only 60 miles from the capital of Islamabad). Furthermore, Iran, North Korea and the terrorist organizations have expressed an overt willingness to use Weapons of Mass Destruction (WMD). Relations with Russia have cooled significantly after the invasion of Georgia. Additionally, China is gaining ground as a near peer.

Meanwhile at home, there has been a lack of consensus on the nuclear mission, makeup, and capability. Our nuclear complex infrastructure is in severe disrepair. The Reliable Replacement Warhead program was scrapped and we are likely to see cuts in the stockpile. Secretary Gates openly discussed the “brain drain” of our nuclear designers, technicians and engineers. “By some estimates, within the next several years, three quarters of the workforce in nuclear engineering and at the National Labs will reach retirement age.”¹ And, by the year 2012 the U.S. nuclear arsenal will be 25% the size it was in 1991.²

Today the U.S. remains the only declared nuclear nation that is not modernizing its nuclear arsenal. In contrast, Russia has increased its reliance on nuclear weapons, is building new ICBM's and SLBM 's, and has a robust infrastructure with production capability. A quick look at the list below shows a stark contrast to the current status in the United States.

Russia's Nuclear Modernization:

- *New road-mobile and silo based Topol-M (SS-27) ICBM*
- *New SS-27 derivative with multiple independently-targetable re-entry vehicles (MIRV) payload*
- *New Bulava SS-30 SLBM*
- *New Borey-class ballistic missile submarine*
- *New long-range strategic nuclear cruise missile – KH -102*
- *Modernization of their Blackjak TU-164 heavy bombers (and the resumption of long range patrols near U.S. and allied territory*
- *Increased training for nuclear operations in all military branches*
- *Upgraded nuclear weapons storage sites.*³

Past Studies

Given the current environment we are operating in, one should question if the issue of de-alerting has been given consideration previously. The answer is yes. De-alerting has been an issue since (if not before) the late 80's. DoD conducted several high-level studies of de-alerting to include; the 1994 Nuclear Posture Review (NPR), numerous studies in anticipation of START III in 1998, and the 2001 NPR. Two findings in these studies were consistent (and will be reviewed further in this paper), (1) verification of de-alerting would be extremely difficult if not impossible, and (2) deactivation/retirement was preferable to de-alerting.⁴

What is “Hair Trigger”?

To frame the issue of de-alerting, the contentious expression “hair trigger” must be defined. As mentioned earlier, both our current and past President have used the term hair-trigger. The esteemed Senator Sam Nunn (Dem – Georgia) used the term frequently in Senate Subcommittee Hearings.⁵ In fact, almost every “pro” de-alerting article or document uses the

word “hair-trigger.” But, is “hair-trigger” the appropriate adjective to describe the handling of our nuclear weapons?

If you type in the words “hair-trigger” into an online dictionary, the definition is “*set in motion or operation by a very slight impulse.*” As an officer in the military, the term hair-trigger conjures images of the trigger on a sniper rifle, where the smallest amount of pressure fires the round. In 2008, long time de-alerting advocate, Bruce Blair described the “hair-trigger” process of launching our nuclear weapons as such;

“The land-based missiles in silos will fly as soon as they receive a few short computer signals whose transmission is as simple as a few keys on a keyboard, hitting enter, repeating the sequence once more, and then turning two keys in unison. The sea-based missiles on submarines will pop out of their tubes as soon as their gyroscopes are spun up, the onboard computer uploads their wartime targets and arms their warheads, and additional computer signals open the hatches and ignite the steam generators that propel the missiles to the surface.”⁶

And Hans Kristensen, Director for the Federation of American Scientist’s Nuclear Information Project states;

The land based missiles can be fired three to four minutes after a presidential order, while the submarine weapons require roughly 12 minutes notice prior to launch.”⁷

Even if the above descriptions are complete (they are not), do they equate to a “hair-trigger?” In Blair’s description, five steps must be completed and they must be completed by two individuals at the same time, thus truly equaling ten steps. Moreover, in Kristensen’s description the process requires a minimum of three to twelve minutes. A ten step process that takes a minimum of three to four minutes does not equate to the definition - “*set in motion or operation by a very slight impulse.*” Furthermore, the steps above can take place only after the President of the United States orders the launch of our nuclear weapons. Blair’s description also missed a key element in the “chain,” two separate and independent crews must give the ICBM valid launch votes. In reality once the President gives the order to launch the following actions

must be completed for each launch. Five separate crews (consisting of two individuals each) will receive the launch order, they will open a safe that requires two people (Russian systems require three) neither of which have the others combination, authenticate the Presidential Order, enter the launch codes, and accomplish two simultaneous key turns. Each crew sends an independent launch vote to the ICBM. The ICBM will not launch without two (of the five) valid launch votes.⁸ This is a process, a “chain,” surely not a “hair-trigger.” Regardless of your position (advocate or opponent) on the de-alerting issue, the term “hair-trigger” is not an appropriate term. There is no doubt that “hair-trigger” has a certain attention grabbing attribute to it, but that only makes it a better sound bite. It does not present an accurate or appropriate description of the Presidential and military process that is required to launch a nuclear weapon. Christina Rocca, U.S. Ambassador to the Conference on Disarmament put it best;

*“Frankly, in order to take action to comply with this request, we would first have to put our weapons on “hair-trigger” alert, so we could then de-alert them. The fact is that U.S. nuclear forces are not and have never been on “hair-trigger” alert.”*⁹

Chapter Conclusion

Come back to the question asked in the beginning of the paper; does de-alerting cause or cure more risk? In the current unstable and dangerous environment (rogue states, terrorism, resurgent and less amicable Russia, and chaotic Pakistan), the lack of modernization in U.S. Nuclear complex, and the fact that all other declared nations are modernizing their nuclear forces (especially Russia); is now the right time to de-alert our forces? The de-alerting issue has been looked at numerous times at the highest levels, and the answer has remained the same – “do not de-alert our forces.” Is now the right time to de-alert our forces? In light of the fact that the rallying cry, “hair-trigger” for advocates of de-alerting is inherently inaccurate, should there be further research into the exact processes required for nuclear launch? Given these issues, does

de-alerting cause or cure more risk? In the dangerous, unstable, and uncertain times we live in today, this is the wrong time to let our guard down, the wrong time to handcuff our options, the wrong time to introduce more risk.

Notes

¹ Secretary of Defense, Robert Gates, *Speech as delivered at Carnegie Endowment for International Peace*, <http://www.defenselink.mil/speeches/speech.aspx?speechid=1305>, (October 2008): 3

² Gates, *Speech as delivered at Carnegie Endowment for International Peace*, 2

³ Department of Defense and Department of Energy Study, *National Security and Nuclear Weapons in the 21st Century*, (September 2008): 7-8

⁴ Department of Defense Study, *DoD Perspectives on De-Alerting*, (2007)

⁵ Senate, *Armed Services Subcommittee on Emerging Threats and Capabilities Holds Hearing on Nuclear Nonproliferation Programs* (11 April 2007)

⁶ Bruce Blair, *Increasing Warning and Decision Time (De-Alerting)*, International Conference on Nuclear Disarmament, Oslo (February 2008): 2

⁷ Elaine Grossman, *Top U.S. General Spurns Obama Pledge to Reduce Nuclear Alert Posture*, Global Security Newswire (February 2009): 7

⁸ K.C. Bailey and F.D. Barish, *De-Alerting of U.S. Nuclear Forces: A Critical Appraisal*, Lawrence Livermore National Laboratory UCRL-L-132030, (August 1998): 4

⁹ Christopher Ford, *Dilemmas of Nuclear Force De-Alerting*, Presented to the International Peace Institute Policy Forum (October 2008): 4

Chapter 3

The Pros and Cons of De-Alerting

“What we will do on some great occasion will probably depend on what we already are; and what we are will be the result of previous years of self-discipline.”

- Henry Louis Liddon

The following chapter will lay out the arguments for and against de-alerting. The pros and cons are organized into six categories; accidental or miscalculated launch, Decision Time, Stability and Flexibility, Supporting or Hindering Disarmament, Deterrence, and the Nuclear Umbrella. Many of the arguments cross pollinate under different categories. For example, deterrence issues can easily be lumped under stability and flexibility issues, issues with decision time could be lumped under miscalculated launch. Arguments about de-alerting must be looked at in regards to the full spectrum. Simply looking at one aspect of the argument does not afford due diligence or a complete review of the issue.

As you read the following sections, remember the issue of “risk,” but also ask yourself can the U.S. unilaterally de-alert? In literature advocating de-alerting you will often find statements that the U.S. must de-alert first. If the U.S. de-alerts first, Russia “could/should” follow suit.

“To reduce concerns that have driven Russia to maintain its missiles ready to launch on warning, the U.S. President should order the following.....In response to the U.S. initiative, the Russian president could order the following.”¹

“De-alerting a significant portion of U.S. missiles could help ease Russian concerns about the potential vulnerability of its strategic forces and help that nation follow the U.S. lead.”²

“If the United States abandoned the task of maintaining their SNF at high alert thus ceasing to pose a potential threat from the point of view of delivering a disabling strike, the launch-on-warning concept would become less important for Russia.”³

“By increasing the amount of time required to launch these weapons, the United States would ease Russia’s concerns about the potential vulnerability of its own nuclear deterrent. Russia would then have an incentive to adopt a safer nuclear posture for its own arsenal.”⁴

“The United States should take such steps unilaterally, so Russia can have enough confidence to relax its own nuclear posture.”⁵

“A number of esteemed U.S. experts (B. Blair, G. Favison, F. von Hippel) believe that it is expedient for the United States to be the first to de-alert missiles, thus giving a signal to Russia to follow suit.”⁶

These arguments seem to be aimed at appeasing Russian fears of U.S. strike capability. What about our concerns of the Russian strike capability, especially in light of their vast improvements? Should the U.S. de-alert its nuclear forces? And is the U.S. willing to de-alert in a unilateral move (even if only initially)? Independent of relations between the U.S. and Russia, will Russia de-alert its forces in regards to China?

Accidental or Miscalculated Launch

The issue of accidental or miscalculated launch is often the most cited reason for de-alerting. Advocates of de-alerting specifically tie accidental or miscalculated launch to issues with Russian Early Warning (EW) systems and the Launch on Warning (LOW) style of alert. The common belief among advocates of de-alerting is Russian early warning systems are in such a state of disrepair or non-existent, that false “reports” of missile launches could necessitate a counter strike by Russia. The U.S. early warning systems are much more robust, but the launch on warning method of alert is still called into question.

Launch on warning is an alert level that enables the President to order a nuclear strike prior to “aggressor” missiles reaching U.S. soil. At its most basic form, launch on warning is the capability to determine a nuclear strike is inbound, notify the President, allow the President to make a decision on counter strike, and then launch (if directed by the President) a portion of our

ICBM force prior to “aggressor” missiles reaching their targets on U.S. soil. Advocates of de-alerting believe that there is not enough time for the President to make an adequate decision (based on the short in-flight time of ICBMs), and thus could “miscalculate” the situation and launch a nuclear strike prematurely. It is also common belief that the majority of our ICBM force rely strictly on launch on warning. While the details on numbers and methods of alert are classified, it is not official US policy to rely solely on launch on warning. U.S. nuclear weapons are maintained on “day to day” alert. Although details remain classified, “day to day” alert is a mixture of alert postures, movement into and out of alert, and are tailorable to the current situation.

Launch on warning is no simply a tool in the deterrence “tool box.” The question that still remains is risk. Is there more risk maintaining a portion of our ICBM force on launch on warning alert, or is it more risk to remove the option? Launch on warning is nothing more than a capability for the President. There are no “dooms day computers” that automatically launch our ICBM force. Launch on warning is an option, not a required action, an option. As we move towards singlet (single warhead on each ballistic missile) ICBMs, the threat is even lessened. A limited attack on the U.S. would not necessitate a launch on warning (due to the dispersed numbers of ICBMS the U.S. would not fear a complete destruction of the ICBM force). However, without a launch on warning alert posture, the U.S. would have no ICBM response capability for a large scale attack.

Advocates of de-alerting often quote the use of our SLBM force for this exact scenario. Two major issues should be called to the front. One, there is wide spread disagreement amongst the advocates of de-alerting on what the U.S. should do with the SLBM force. Some feel that SLBMs cannot truly be de-alerted and thus they must be removed from the Triad. Others feel

that SLBMs are the answer to de-alerting our ICBM force. Clearly more research and study is required prior to any realistic discussions on SLMBs and their affect on an alerted ICBM force. Secondly, if we solely rely on the SLMB force to deliver a retaliatory strike, we have tied our hands to one capability. What happens if this capability has lost its defining advantage; “invisibility?” Is it too farfetched to envision a future where we have the capability to see submarines in the oceans the same way we see airplanes in the sky? Also, is it too farfetched to see strikes on both East and West coast SLBM bases? Keeping a launch on warning alert posture for a percentage of our ICBM force complicates an “aggressors” actions and planning. It forces an aggressor to deal with multiple retaliatory scenarios, both ICBM and SLBM.

Russian early warning systems are also a major concern in terms of accidental or miscalculated launch. At the end of the Cold War, Russia lost a significant portion of their early warning system. Some were located in countries that gained independence. Others fell into disrepair due to the economic downturn in Russia. The gaps in Russia’s early warning systems come in the form of both coverage (factored in time) and redundancy. This shortfall in early warning is a legitimate concern for both advocates and opponents of de-alerting. However, de-alerting the U.S. nuclear forces does not solve the Russian early warning problem. As opposed to de-alerting our forces, we should focus on the early warning problem itself. In addition, we should be careful in our assumptions of the Russian early warning systems. Just as in the U.S., much of Russia’s early warning systems are highly classified and there have been vast improvements since 1991. In January, 2008, the Russian Commander of Space Troops reported, *“It is wrong to assume that the Russian missile attack early warning system is in a critical state and in actual fact it is much better that it was in 1991.”*⁷

There is probably no stronger a rally point for advocates of de-alerting than the “Norwegian Sounding Rocket” in 1995. There are also a few other examples of what advocates would call “near misses.” A thorough review of each incident would be a paper within itself. In the case of the Sounding Rocket, a notification of launch was misrouted within Russia and Russian military forces were surprised by the single missile. It is reported that President Yeltsin activated his nuclear briefcase for the first time. As alarming as this may sound, it is only part of the story. Further examination of the Sounding rocket incident shows a much less alarming situation, and one that was masterfully played by Russia. This was a launch of a single missile. A single missile launch against the U.S. or Russia does not necessitate a massive launch on warning retaliation. Furthermore, there is no evidence that Russian strategic forces were placed on a heightened state of readiness in response. The day after the incident, President Yeltsin told the Russian press that he activated the nuclear briefcase as means to communicate with his military commanders and defense minister.⁸ Communication does not equate to preparation for launch. In reality, Russian forces followed their protocol and achieved an appropriate resolution. The system worked as it should.

While there are other examples besides the Sounding Rocket, one fact remains the same; we have not had a single significant incident, nor has there been a single launch by any nation. The first U.S. ICBM was placed on alert in 1959 and the first SLMB went on alert in 1960.⁹ In 50 years of alert, there has not been a single bonafide incident. Furthermore, the aforementioned “incidents” have actually shown how robust the system is. They have shown that our nuclear weapons are not on a “hair trigger.” Neither side would argue that improvements could be made to both U.S. and Russian early warning. De-alerting does not address these issues.

Decision Time

Closely tied to the issue of miscalculated launch is the issue of decision time. How much time does the President have to make a decision to launch or not launch a nuclear strike? Using a scenario in which U.S. weapons are on alert and inbound missiles are detected, advocates of de-alerting ascertain the President could be forced to make a retaliatory launch decision in a matter of minutes (due to LOW). De-alerting advocates believe that under the same scenario (with the exception that U.S. weapons are not on alert) the President would have adequate time to determine if these were false warnings, an accidental launch, etc, and chose retaliatory options at his discretion. Furthermore, the view is if we de-alert, the Russian's "could/should" de-alert as well. Thusly, if both sides are de-alerted, time is no longer a factor, and "calmer heads can prevail." This argument for added time is only applicable if both the U.S. and Russia agree to de-alert. Contrary to many who suggest the U.S. can de-alert independent of Russia, the value of added time is worthless if the U.S. is the only country that has to "wait."

The issue of time is only valid if you assume the President must launch a strike before impact. If no strike is authorized, time is not a factor. The President has the option to launch a strike, wait, or even sustain a strike on our soil and then launch a retaliatory strike. The idea the President only has a few minutes to make a decision if the weapons are on alert is completely false. In reality he only has options if weapons are on alert. Indeed some of the options are time constrained options. But a time constrained option is better than no option at all.

An alerted force actually gives the President the most time to make a decision. If our forces are de-alerted and a crisis arises, a good amount of "energy" and intellectual capital will be spent on the decision to re-alert or not. Once the decision to alert has been made, the next step and "energy" is spent on bringing the systems back to an alert stage. In the interim, the

crisis itself will not stop and wait for this process. In essence, the decision to re-alert has replaced crisis planning. During a time of crisis, we do not want the President or the military “taking their eye off the ball.” Their full attention should be on the crisis at hand and not on re-altering a nuclear force.

Lastly, a de-alerted force could require the President to re-alert our nuclear forces prematurely and thus escalate the crisis. As Michael May accurately points out;

“The time it takes for a government, particularly a democracy, to react to a potential threat is longer than the timetable an aggressor typically sets. This is especially the case if the reaction requires a difficult and costly decision such as rearming.”¹⁰

An alerted force allows the President to focus on the task at hand. An option that is “ready,” compared to one that is “in storage” allows more time for decision making, not less.

Stability and Flexibility

Stability and flexibility of our nuclear force is a desire on both sides of the de-alerting debate. The difference is how they view stability and flexibility. Does de-alerting aid or hinder these issues? Advocates of de-alerting argue that weapons off alert provide a much more stable environment. Opponents of de-alerting will state that by its very nature, de-alerting is prohibitive in nature, and thus does not provide greater stability and flexibility. If nuclear weapons are not on alert, and thus require extended time to launch, are we not in a more stable environment? Without further investigation, the assumed answer would be an easy “yes.” However, there are a multitude of factors that must be examined in regards to stability and flexibility of our nuclear forces.

First, we must look at stability and flexibility in a time of crisis. It should be evident that if nuclear weapons are “up for discussion,” the term “crisis” would be an accurate description of the times. Stability and flexibility are paramount in a “crisis”. In a crisis you are always much

better off if you come from a stable environment, one from which you can focus on the problem at hand. Flexibility is also of the utmost importance in a time of crisis, you do not want your hands tied. Safety, stability, and flexibility are all enhanced by normalcy. Absolute certainty is necessary in a time of crisis. If our nuclear weapons are de-alerted and a crisis arises, how much time and energy will be placed on re-alerting the force? A “spin-up” to re-alert our forces will induce stress and anxiety on all concerned parties. It will stress the military functions that stand up the weapons, it will stress the President as he tries to determine his course of action (until the weapons are re-alerted, he does not have the option of their use), it will also stress the current situation itself. If this “crisis” were with Russia, would Russia sit idly by and watch as the U.S. re-alerts her nuclear force, or would she in turn re-alert her forces? This escalation of events is inherent to re-alerting forces. Taken a step further, this rise in tension actually makes the choice to re-alert even harder. What amount of political capital will be spent on re-alerting our forces, especially if this is taken as an act of aggression? Senator Bob Smith has opined,

“The very act of restoring de-alerted forces to higher alert status would be viewed as provocative and destabilizing. This, de-alerting should be considered a permanent act of disarmament; and, we should not expect de-alerted forces to ever again deter aggression at any level.”¹¹

Additionally in a de-alerted force structure there must be absolute trust on both sides of the crisis that there are no alerted weapons. Furthermore, in an example with Russia, it is very possible that Russia would re-alert her forces (even if we were not alerting ours) out of fear of the U.S. conventional capabilities. There is also the issue of a “new arms race” to develop weapons that could be brought back to alert status quicker than the “enemy” could. In a de-alerted status, bringing your weapons back to alert quickly will be of great importance. This will inevitably tie into the decision making process of re-alerting. Using the Russian example again,

how much would we trust that Russia did not have weapons on alert, but also that our weapons could be brought back to alert faster? At what point does either Russia or U.S. decide to act based on fear and the unknown?

In actuality, an alerted nuclear force provides the most stability to a crisis. Under this alerted state the force is operating in its war fighting configuration. There are not additional stresses placed on the military operators in a time of crisis as they have exercised and are prepared in this status. They are not rushing to re-alert and thus inherently stressed. The President has his options at hand and can focus on the crisis. Furthermore, there is no risk of escalation due to a re-alert. When a crisis occurs you want the least amount of distractions, the most routine standards possible, the most options at hand and the least stressed environment possible. All of these parameters are aided in an environment in which an alerted force is the reality.

Supporting or Hindering Disarmament

As stated earlier, numerous studies by DoD have found deactivation and retirement preferable to de-alerting. However, many of the proponents view de-alerting as a “stepping stone” towards disarmament.

“The ultimate goal would be to separate most, if not all, nuclear warheads from their missiles and then, eventually, to eliminate most of the stored warheads and missiles.”¹²

“Revise their doctrines and operational procedures so that the notice to fire of nuclear weapons systems is measured in days, weeks and months rather than minutes.....It is time that we started to make real progress on nuclear disarmament and this is the place to start.”¹³

“If both the United States and Russia remove nuclear weapons from hair-trigger status, we can immediately eliminate the threat of rapid assured destruction.....By taking this step, we will de-emphasize the role of nuclear weapons and make them less relevant.”¹⁴

“If nuclear forces of both sides are maintained at lower levels of combat readiness, there is no need to have large quantities of warheads and delivery vehicles.”¹⁵

Many advocates of de-alerting view this step as vital to eventual disarmament of nuclear weapons. In one way, it is logical. If we deactivate our weapons, we render them useless in their role in U.S. deterrence strategy. And, if our nuclear weapons are no longer a deterrent, why have them at all?

Some would say this is a “death by a thousand cuts.” There are numerous holes in an argument that uses de-alerting as a means to disarmament. For one, the quote above on lower numbers equates to a lower alert status is false. Actually, the lower the number of nuclear weapons we have, the greater the need to keep those weapons on alert. The logic is simple. With a larger nuclear force we can afford to alert and de-alert portions of the force for training, maintenance, symbolic measures for arms negotiations, etc, and yet maintain a strong nuclear deterrent. Again, with a larger nuclear force we do not risk destruction of the force from an attack and can thus “ride out” an initial attack. With a small force, we are required to keep a much higher percentage of ICBMs and SLMBs on alert (to ensure survivability), and do not have the flexibility of putting them on and taking them off alert. Furthermore, the smaller the force the more likely we will be tied to a LOW style of alert.

True proponents of disarmament should push for disarmament as the goal and not use de-alerting as a stepping stone. Substituting de-alerting for deactivation and retirement will greatly impede the goal of disarmament. A formal de-alerting structure will require international agreements (at a minimum between Russian and the U.S.), verification teams, funding, and manpower. Where will these required components come from? The logical answer is from the current disarmament functions. Under the current fiscal conditions it is unlikely to see an entire new regime (with funding) developed to deal strictly with de-alerting. In reality this regime

would be taken “out of hide” from the current disarmament regime. In the end, de-alerting would greatly slow the process of disarmament, not speed it up.

Deterrence

Many experts say the true function of our nuclear arsenal is political. Deterrence is another primary function of our nuclear weapons. Of the many definitions about nuclear deterrence, the following is amongst the simplest and straight to the point.

“Nuclear deterrence is preventing aggression against the U.S., its allies, and vital interests by threatening the prospect of nuclear retaliation.”¹⁶

However, not everyone agrees that deterrence is even necessary. In his discussion on the obstacles to lowering the operation readiness of nuclear weapons, John Hallam proclaims,

“these largely centre around those in bureaucracies and military hierarchies who still believe that deterrence is necessary.”¹⁷

If deterrence is no longer needed, then de-alerting makes perfect sense. However, if you believe deterrence remains a useful tool in the U.S. “tool box,” then de-alerting lessens the believability of the deterrent. For the U.S. nuclear deterrent to be believable, it must be executable, have the capability, and the will. If you remove one, you remove the deterrent value. The U.S. may have a capable nuclear force and the political will to use it, but if that same nuclear force is not executable, then it is truly worthless. Which brings into mind the question, “if you can’t use them, why have them?” Again, go back to the issue of disarmament, if you are pushing for disarmament, then do so, do not confuse de-alerting with disarmament. De-alerting to further disarmament is not the best use of time, money or manpower.

Deterrence works in a world of uncertainty. It is one of the few things that are actually strengthened by vagueness and question. The ideal scenario (and what that has worked so far) is for all nations to realize the price of aggression is so high, that no one attacks another. This is

simple deterrence. A prime example of why deterrence is so necessary for our nuclear arsenal is the idea of “fait accompli,” a situation in which an attacker could conduct a strike largely unopposed and then deter retaliation. De-alerting our forces play directly into this scenario. It is easy to envision a scenario where if the U.S. has completely de-alerted its nuclear force (especially in a way that requires days to re-alert) and were struck by even a single nuclear weapon, we could not do anything about it. In the amount of time it would take us to bring our weapons back on alert and provide an honest response, the offending nation would bring their nuclear arsenal back on alert as well. Thusly, the offending nation could threaten any retaliation with a full scale retaliation of their own. The U.S. then must decide between living with a nuclear strike on our soil or a full out nuclear war. This scenario is not only realistic, but driven by only a single nuclear weapon. How easy is it to hide a single alerted and ready nuclear weapon?

Nuclear Umbrella

One of the primary roles of the U.S. nuclear mission is extending its deterrent value to the “Nuclear Umbrella.” The U.S. has extended the security assurances of our nuclear deterrent to 31 countries. They include all members of NATO, Australia, Japan, South Korea, Taiwan and Israel.¹⁸ At a minimum these 31 countries must be conferred with prior to the U.S. entering any decision to de-alert its nuclear forces. Security assurances to allied nations cannot be taken lightly and in reality should be placed before those of non-ally states. What would these nations think of the U.S. de-alerting its nuclear forces? Would these nations then place their nuclear forces on alert? Would they quickly start their own nuclear weapons program to defend themselves? Japan and South Korea are two nations that could easily start their own weapons program relatively quickly if they perceive the U.S. umbrella as weak. Given the increasing

threat of North Korea, this is not a farfetched idea. After the North Korean nuclear test in 2006, both Japan and South Korea “sought high-level reassurances that the “nuclear” remains in the U.S. “nuclear” umbrella.”¹⁹ If Iran is successful in their nuclear weapon ambitions, a host of neighboring nations might chose to follow suit. If so, the U.S. could offer to extend the Nuclear Umbrella to these nations and thus stop the spread of nuclear weapons even further. As the issue of de-alerting is discussed, it must include our allies and potential friends.

Chapter Conclusion

The issue remains risk. Does de-alerting cause or cure risk? Looking at the full spectrum of de-alerting and its implications, de-alerting causes more risk than it cures. The current alerted force provides a stable deterrent force that gives the President options. A de-alerted force lacks deterrence, is not stable in a time of crisis, and removes options from the President. There cannot be enough emphasis placed on the value of a stable environment from which to operate from during a time of crisis. An alerted force provides this stability and actually adds time to the Presidential decision making matrix. An alerted force allows the President to focus on the crisis at hand. Furthermore, there would be less inherent escalation in tensions as nations re-alerted their nuclear arsenals in response to the crisis.

Additionally, the U.S. is not the only country that gains from operating on a stable and predictable platform under an alerted force. There are 31 other nations under the U.S. umbrella that also play a role in global stability. If the issue is early warning, specifically Russian early warning, then address it directly. Do Russian inadequacies in early warning or Russian fears of a possible U.S. strike equate to de-alerting the U.S. nuclear deterrent? Lastly, if advocates (and some are) are using de-alerting as a means to disarmament, then they are focusing on the wrong issue. To de-alert our forces; money, time, and manpower will come from the disarmament

arena. This will only extend the timeline of disarmament. If the goal is disarmament, then push for the retirement and destruction of actual weapons systems.

Notes

¹ Bruce Blair, Harold Feiveson, and Frank von Hippel, "Taking Nuclear Weapons off Hair-Trigger Alert," *Scientific America* Volume 277 No. 5 (Nov 1997): 81

² Nuclear Weapons Complex Consolidation Policy Network, *Transforming the U.S. Strategic Posture and Weapons Complex for Transition to a Nuclear Weapons-Free World*, (April 2009): 5

³ A.G. Arbatov, V.S. Belous, A.A. Pikaev, V.G. Baranovsky, *De-alerting Russian and US nuclear weapons: a path to reducing nuclear dangers*, (2001): 3

⁴ Federation of American Scientists, Natural Resources Defense Council, Union of Concerned Scientists, *Toward True Security, Ten Steps the next President Should Take to Transform U.S. Nuclear Weapons Policy*, (2008): 4

⁵ Federation of American Scientists, *Toward True Security, Ten Steps the next President Should Take to Transform U.S. Nuclear Weapons Policy*, 16

⁶ A.G. Arbatov *De-alerting Russian and US nuclear weapons: a path to reducing nuclear dangers*, 16

⁷ BBC Monitoring Proliferation Digest, *Former Soviet Union*, EUP20080128950051 (29 January 2008): 6

⁸ Department of Defense Study, *DoD Perspectives on De-Alerting*, (2007)

⁹ Major Michael Fortney, *Nuclear De-Alerting and the Search for Post-Cold War Nuclear Policy*, Thesis Presented to the School of Advanced Airpower Studies, (June 1999): 16

¹⁰ Michael May, "The trouble with disarmament," *Bulletin of the Atomic Scientists* Volume 64 No. 15 (Nov/Dec 2008): 20

¹¹ K.C. Bailey and F.D. Barish, *De-Alerting of U.S. Nuclear Forces: A Critical Appraisal*, Lawrence Livermore National Laboratory UCRL-L-132030, (August 1998): 9

¹² Bruce Blair, "Taking Nuclear Weapons off Hair-Trigger" Alert 81

¹³ John Hallam, *Overcoming Political Obstacle to Lowering Operational Readiness*: 5

¹⁴ Nuclear Threat Initiative, *A New Triumph of Sanity*, Carnegie International Non-Proliferation Conference (June 2004): 2

¹⁵ A.G. Arbatov *De-alerting Russian and US nuclear weapons: a path to reducing nuclear dangers*, 2

¹⁶ Kathleen Bailey et al., *White Paper on the Necessity of the U.S. Nuclear Deterrent*, (August 2007): 1

¹⁷ Hallam, *Overcoming Political Obstacle to Lowering Operational Readiness*: 4

¹⁸ Bailey et al., *White Paper on the Necessity of the U.S. Nuclear Deterrent*, 3

¹⁹ Bailey et al., *White Paper on the Necessity of the U.S. Nuclear Deterrent*, 2

Chapter 4

De-Alerting Options

“Put your trust in God, but keep your powder dry.”

- Oliver Cromwell

A cursory look at the options of de-alerting is appropriate and highlights the difficulties we would face if we did move to a de-alerted force. A detailed analysis of de-alerting options that delve deeply into the technical issues of our weapons systems is warranted but would also be classified. As a result, this is a cursory view using the most frequent suggestions on how to de-alert our nuclear forces and the difficulties they pose.

Physical Obstructions

Physical obstructions on missile silos have been a suggestion from the beginning of the de-alerting discussion. Two of the most recent studies continue to use this argument. The 2009 report on “Transforming the U.S. Strategic Posture and Weapons Complex” calls for “placing large weights over the covers of missile silos or otherwise disabling the covers of silo-based missiles or the launching mechanism of mobile missiles.”¹ The 2008 report, “Toward True Security” discusses the “design of heavy objects that could be placed on the lids of U.S. and Russian missile silos and would take some time to remove.”² While this low tech method may have validity in slowing the launch of the U.S. and Russian ICBM forces and even Russian mobile units, it does not solve the SLBM force.

Of all the options, this is the most verifiable option with the use of Satellite imagery to confirm the placement of these obstructions. However, the ability to see the location of every silo and mobile unit is not an attractive option to either the U.S. or Russia. The current

availability of satellite imagery in today's "techno" world would make the locations of U.S. and Russian nuclear weapons available to far too many countries and individuals. Clearly this is a security concern and actually makes our weapons more vulnerable.

Mechanical, Electrical, Hydraulic Impediments

There are numerous suggestions that fall under this category; removing batteries or other key electronics, removing mechanical components, draining hydraulic fluids, etc.

STRATCOM's "Talking Points on De-Alerting," candidly state one of the dilemmas with this option. "

*"ICBMs are stored in their weapon-system designed configuration – stored in vertical silos, monitored continuously in a power-on state. To do otherwise would result in either degraded system performance or a decrease in weapon system safety and security."*³

At a minimum a very detailed study must be done to ascertain the safety and reliability issues that come with changing the configuration of our nuclear weapons and the way they were designed to be configured. Moreover, the key weakness to this option of de-alerting is verification. Only the most intrusive verification measures would allow other nations to confirm our nuclear systems were secured in this manner.

Cutting Power

Cutting power to the systems is also a common suggestion. This option suffers from the same concerns as mechanical, electrical, and hydraulic impediments. An Air Force Space Command (AFSPC) study found several concerns with cutting power. Predominately a ten percent failure rate (due to the missile guidance set) if the missiles sat dormant for 1 year, and up to twenty percent if dormant for more than 1 year. Furthermore, the consequences of the failure rate would be extremely costly in dollars (in replacement parts) and in time (crew time to

accomplish maintenance repairs).⁴ Additionally verification remains an issue as only the most intrusive verification measures could validate this option of de-alerting.

Strip Targeting Information

U.S. ICBMs and SLMBs are no longer aligned to preset targets. However, this is quickly reversible and thus does not provide a true de-alerting option. On the other hand, if “target data were removed from the computer memory,” the launch process would be delayed for a minimum of 30 minutes.⁵ The issue remains verification again. How do you verify this option to the point that either the U.S. or Russia would be satisfied? Is the U.S. simply to rely on trust?

Manual Safe Measures

Although a much more detailed study is required, it is believed that manual safing options could be placed on our ICBM and SLBM forces. There are complications to manual safing, especially on the SLBM force. Would these safing options be kept onboard the submarine itself, if so, how is it verifiable? ICBMs prove to be an easier task as the safing mechanism could be kept independent of the missiles themselves. It would require multiple personnel (two security forces and two maintenance) to enter the launch facility to unsafe the weapon.⁶ At the risk of sounding redundant, verification is yet again the weakness in this option, only the most intrusive verification regime would validate this option.

Warhead Removal

The most dramatic option is removal and storage of the warhead. In “phase four” of Bruce Blair’s “How to De-Alert,” he suggests “all warheads are separated from their delivery vehicles.”⁷ He also suggested that “the ultimate goal would be to separate most, if not all, nuclear warheads from their missiles and then, eventually to eliminate most of the stored warheads and missiles.”⁸ Many would say this is akin to disarmament. The amount of time it

would take to “re-mate” warheads to delivery systems would be so prohibitive, it would be akin to disarmament. Independent of the disarmament discussion, there are a multitude of issues with warhead removal. Due to the sheer numbers of warheads; storage, safety, transportation, and security become immense undertakings. It is unknown if the U.S. is capable of such a move at this point, but it is known that Russia is definitely not capable. The Russian Deputy Chairman of the State Duma Defense Committee, Alexei Arbatov was quoted as saying:

“If an attempt is made to implement the de-alerting concept by way of warhead removal prior to eliminating the tremendous arsenals of nuclear weapons, the issue related to the safety of their storage, transportation and recycling could become insurmountable.”⁹

Clearly warhead removal is at best a long off approach to de-alerting and much more appropriately applied to the disarmament arena.

Chapter Conclusion

This has been a cursory look at the de-alerting options. However, the more detailed and technically driven the study, the harder it will be to accept many of these de-alerting options. Moreover, as noted numerous times above, the issue of verification is paramount. An extremely intrusive verification regime would be required. This verification would prove extremely costly in monetary amounts, time and manpower. The question must be asked, where would the money, time, and manpower come from? The most obvious answer is from other Arms Control activities. Thusly we must decide in what direction the U.S. wants to put it’s effort. Lastly, as some of these options are not truly verifiable, many of these options will require a great amount of “trust” on behalf of all parties. If enacted, do these measures cure or cause more risk? When taken as a whole, to include the diversion from other Arms Control activities and the amount of trust required, the risk is far greater.

Notes

¹ Nuclear Weapons Complex Consolidation Policy Network, *Transforming the U.S. Strategic Posture and Weapons Complex for Transition to a Nuclear Weapons-Free World*, (April 2009): 31

² Federation of American Scientists, Natural Resources Defense Council, Union of Concerned Scientists, *Toward True Security, Ten Steps the next President Should Take to Transform U.S. Nuclear Weapons Policy*, (2008):16

³ STRATCOM Talking Points on De-Alerting, *USSTRATCOM/J5*, (17 October 08)

⁴ Major Michael Fortney, *Nuclear De-Alerting and the Search for Post-Cold War Nuclear Policy*, Thesis Presented to the School of Advanced Airpower Studies, (June 1999): 58

⁵ Federation of American Scientists, *Toward True Security, Ten Steps the next President Should Take to Transform U.S. Nuclear Weapons Policy*, 15

⁶ Major Fortney, *Nuclear De-Alerting and the Search for Post-Cold War Nuclear Policy*, 59

⁷ Bruce Blair, *Increasing Warning and Decision Time (De-Alerting)*, International Conference on Nuclear Disarmament, Oslo (February 2008): 9

⁸ Bruce Blair, Harold Feiveson, and Frank von Hippel, "Taking Nuclear Weapons off Hair-Trigger Alert," *Scientific America* Volume 277 No. 5 (Nov 1997): 81

⁹ A.G. Arbatov, V.S. Belous, A.A. Pikaev, V.G Baranovsky, *De-alerting Russian and US nuclear weapons: a path to reducing nuclear dangers*, (2001): 15

Chapter 5

Additional Recommendations

“It would indeed be a fatal thing to leave ourselves unarmed against the despotisms and barbarisms of the world.”

- Theodore Roosevelt

When answering the question on risk, the answer is clearly that de-alerting causes more risk than it cures. However, advocates of de-alerting have valid concerns. Whilst de-alerting is not the proper tool to address these concerns, there are options at our disposal. Options that truly deal with the problem and do not “create a solution to a problem that does not exist.” The U.S. and Russia could implement a number of changes and additions to the nuclear complex. These changes, while not necessarily easy, are much more readily accomplished than de-alerting. They also leave each nation with a stable deterrent platform. These options include:

1. Anti-Ballistic Missile Defense (ABM) – a robust and accurate ABM system in both the U.S. and Russia would remove the threat of singlet (think Sounding Rocket example) and small scale attacks. Massive retaliatory strikes based on launch on warning would not be necessary as the ABM sites could deal with limited numbers of incoming missiles. If the number of incoming missiles is greater than a robust ABM could handle, a launch on warning alert posture is required.
2. Shared Early Warning Systems – the U.S. and Russia could enter into a cooperative arrangement to develop and deploy shared technologies in early warning. This would alleviate concerns over Russian early warning. An excellent example is the Russian-American Observation Satellite (RAMOS) project. This project started in 1997, but was

canceled in 2004. As the failure was not one based on technical impossibility, rather on cost and political issues, the RAMOS project should be revived and implemented.

3. Joint Data Exchange Center (JDEC) – JDEC was established in order to “minimize the consequences of a false missile attack warning and to prevent the possibility of a missile launch caused by such false warnings”¹ Although not dead, JDEC is currently held in limbo by both the U.S. and Russia over legal issues. The issues holding JDEC back should be fixed and JDEC should be implemented.
4. Communication – expand the “hot lines” to and from the U.S. and Russia. This clearly ties into JDEC, but should branch out even deeper into the nuclear complex of both countries. Military exchange programs could also fall under the “communication” banner. Exchanges of U.S. and Russian military officers into the appropriate decision making matrixes of each country would go a long way in building trust and improving communication at the most critical levels.

These four options address the actual concerns of de-alerting advocates without stripping away the deterrent. They are also cheaper and easier to implement and verify. These measures lower the risk of accidental launch, while maintaining a robust deterrent. Lastly, they definitely cure more risk than they cause.

Chapter Conclusion

In the current world we live in, deterrence is both relevant and necessary. While we all agree that nuclear weapons are a “no mistake” business, de-alerting is not the answer. The U.S. requires a believable and provable deterrent, as well as a profitable alternative. Alerted nuclear weapons provide this option to the President. An altered nuclear weapon is no more than a tool and an option; it is not a required action. A de-alerted nuclear weapon has little usefulness until

readied for launch. A de-alerted weapon has removed options from the President and is a dangerous handcuff. We should strive to tackle the issues of de-alerting in logical and methodic fashion. We should remove emotion and “yellow journalism” from the process. Using words like “hair trigger, global catastrophe, Armageddon, and extinction of the human race,” only serve to detract from the worthy goal of making the world’s nuclear weapons safer. As we continue to face a dangerous and uncertain world, we must arm the President with the full range of options. Only an alerted nuclear force allows for the full range of options and provides the least amount of risk.

Notes

¹ Christopher Ford, *Dilemmas of Nuclear Force De-Alerting*, Presented to the International Peace Institute Policy Forum (October 2008): 14